

Having thus described the preferred embodiments, the invention is now claimed to be:

1. An inflatable sport ball having an integral pump and pressure relief mechanism, said ball comprising:

a flexible carcass including an inflatable bladder having an interior adapted for retaining pressurized air, and an outer layer disposed on said bladder;

a pump cylinder secured to said carcass, said cylinder including a distal end at which is disposed a valve, said cylinder defining an interior hollow chamber in communication with said interior of said bladder through said valve;

a pump piston disposed in said cylinder, said piston positionable within said cylinder, said piston including a distal end at which is disposed an actuating member;

wherein said piston and said cylinder are configured such that upon selective positioning of said piston, said actuating member engages said valve to selectively provide passage and escape of pressurized air from within said bladder.

2. The sport ball of claim 1 where said pump cylinder further includes an open end opposite from said distal end of said cylinder, and a cylindrical sidewall extending between said open end and said distal end.

3. The sport ball of claim 1 wherein said pump piston defines an annular recess along said distal end of said piston, and said ball further comprises:

a coil spring disposed in said annular recess and engaging said cylinder and said piston such that said spring urges said piston away from said distal end of said cylinder.

4. The sport ball of claim 1 wherein said actuating member of said piston is a needle.

5. The sport ball of claim 1 wherein said sport ball is selected from the group consisting of a basketball, a football, a soccer ball, and a volleyball.

6. The sport ball of claim 5 wherein said ball is a basketball.

7. The sport ball of claim 5 wherein said ball is a football.

8. The sport ball of claim 1 wherein said ball further comprises:
a pressure indicating assembly adapted to provide an indication of the pressure of air within said ball.

9. The sport ball of claim 1 further comprising:
a secondary valve disposed in said carcass.

10. An inflatable sport ball having an integral pump and pressure indicating assembly, said ball comprising:

a flexible carcass including an inflatable bladder having an interior adapted for retaining pressurized air, and an outer layer disposed on said bladder;

a pump cylinder secured to said carcass, said cylinder including a nozzle end, said cylinder defining an interior hollow chamber in communication with said interior of said bladder through said nozzle end;

a pump piston disposed and positionable within said cylinder, said piston including a distal end, said piston including a pressure indicating assembly;

wherein upon engagement between said distal end of said piston and said nozzle end of said cylinder, said pressure indicating assembly is placed in communication with the interior of said bladder and thereby causing said assembly to indicate the pressure within said interior.

11. The sport ball of claim 10 wherein said piston further includes a second end opposite from said distal end and said piston defines a hollow interior region providing communication between said distal end of said piston and said second end of said piston, said piston further including a movable sphere disposed in said hollow interior region of said piston.

12. The sport ball of claim 11 wherein said piston further includes a plurality of pressure indication lines viewable in relation to the position of said sphere in said hollow interior region of said piston.

13. The sport ball of claim 10 wherein said sport ball is selected from the group consisting of a basketball, a football, a soccerball, and a volleyball.
14. The sport ball of claim 13 wherein said sport ball is a basketball.
15. The sport ball of claim 13 wherein said sport ball is a football.
16. The sport ball of claim 10 wherein said ball further comprises:
a pressure relief assembly adapted to selectively allow passage and escape of air from the interior of said ball.
17. The sport ball of claim 10 further comprising:
a secondary valve disposed in said carcass.
18. An inflatable sport ball having an integral pump, pressure relief mechanism, and pressure indicating device, said ball comprising:
a flexible carcass including an inflatable bladder having an interior adapted for retaining pressurized air, and an outer layer disposed on said bladder;
a pump cylinder secured to said carcass, said cylinder including a distal end at which is disposed a valve for providing communication with said interior of said bladder, said cylinder defining an interior hollow chamber in communication with said interior of said bladder through said valve;

a pump piston disposed in said cylinder, said piston positionable within said cylinder, said piston including a pressure indicating assembly and a distal end at which is disposed an actuating member;

wherein said piston and said cylinder are configured such that upon selective positioning of said piston (i) said member engages said valve to selectively provide passage and escape of pressurized air from within said bladder, and (ii) said pressure indicating assembly is placed in communication with the interior of said bladder and thereby causing said assembly to indicate the pressure within said interior.

19. The sport ball of claim 18 where said pump cylinder further includes an open end opposite from said distal end of said cylinder, and a cylindrical sidewall extending between said open end and said distal end.

20. The sport ball of claim 18 wherein said pump piston defines an annular recess along said distal end of said piston, and said ball further comprises:

a coil spring disposed in said annular recess and engaging said cylinder and said piston such that said spring urges said piston away from said distal end of said cylinder.

21. The sport ball of claim 18 wherein said actuating member of said piston is a needle.

22. The sport ball of claim 18 wherein said piston further includes a second end opposite from said distal end and said piston defines a hollow interior region providing communication between said distal end and said second end of said piston, said piston further including a movable sphere disposed in said hollow interior region of said piston.

23. The sport ball of claim 22 wherein said piston further includes a plurality of pressure indication lines viewable in relation to the position of said sphere in said hollow interior region of said piston.

24. The sport ball of claim 18 wherein said sport ball is selected from the group consisting of a basketball, a football, a soccerball, and a volleyball.

25. The sport ball of claim 24 wherein said sport ball is a basketball.

26. The sport ball of claim 24 wherein said sport ball is a football.

27. The sport ball of claim 18 further comprising:
a secondary valve disposed in said carcass.

28. A pump adapted for incorporation in an inflatable sport ball, said pump comprising:

a cylinder having a nozzle end, a valve disposed at said nozzle end, an open end opposite from said nozzle end, and a sidewall extending between said nozzle end and said open end, said open end adapted for engagement with a carcass of said ball;

a piston movably disposed in said cylinder, said piston including a distal end at which is disposed an actuating member;

wherein said piston and said cylinder are configured such that upon selective positioning of said piston within said cylinder, said actuating member engages said valve to selectively open said valve.

29. The pump of claim 28 wherein said actuating member is a needle.

30. The pump of claim 28 further comprising:

a pressure indicating assembly.